more important points can be seen under competent guidance. Prof. Coleman has undertaken to conduct a party interested in geology to examine the Glacial Beds of the Don Valley immediately east of Toronto. Here are found drift deposits more than 200 feet thick, resting directly on Silurian strata, and containing an abundance of fossils of extinct animal and vegetable forms which point to a climate in Glacial times considerably warmer than that which now obtains in the temperate zone. The change in the lake level brought about since the Glacial Era, is shown by the old shore-line of the ancient lake ("Iroquois Water") demonstrated in these deposits, which is 170 feet above the surface of the present Lake Ontario. At Scarboro' Heights, a few miles further east, the beds reach a thickness of 350 feet. The excursion to be conducted along the course of the Niagara River to the Falls will be under the guidance of two geologists who have made a special study of the region. The vertical walls of rock, 200 feet high, provide an admirable section of the Silurian strata of the region; and the marvellous history of the Falls and the great lakes and rivers of the St. Lawrence chain of waters will be illustrated on the spot.

The excursion to the Niagara region will be made on Saturday, August 21, and that to the Don Valley and Scarboro' Heights on August 23.

The Muskoka Lakes Association, formed of a large number of public-spirited Canadians, are making special arrangements for the excursion to the Muskoka Lake region. Some of the loveliest bits of scenery are to be found in this locality, and a stay of a couple of days (August 21–23) will constitute a very pleasant feature in the programme of the meeting. Many of the members who will take this excursion will be received as guests amongst the members of the Muskoka Lakes Association who have summer residences and camping-grounds on the islands. The Muskoka Lake Navigation Company have arranged for special trips of their steamers on the occasion. The railway fare from Toronto to Muskoka and return will probably be a nominal one.

It is generally recognised that this will be the last occasion for many years on which Canada will be honoured by the visit of so many scientific men, many of whom are veterans in the scientific progress of the nineteenth century, and it is felt that the opportunity should not be allowed to pass without attempting in some way to show the appreciation which Canadians have for the services rendered by them to science. It has in consequence been arranged to give a public banquet in honour of Lord Kelvin, Lord Lister, and Sir John Evans, the President-elect of the Association. The University of Toronto will, to judge from present indications, hold a special convocation during the meeting, at which, doubtless, a number of honorary degrees will be conferred.

The Cataract Construction Company of New York have very extensive electrical plant at Niagara Falls, which generates a large part of the current which supplies Buffalo and the neighbourhood. The Company has generously invited the members of the Association to inspect the plant, and it will arrange specially for the reception of the members who will accept the invitation.

The Director of the Harvard Astronomical Observatory has issued a special invitation to the members of the Association who are interested in astronomy, and who may be in Boston, to visit the Observatory.

The loss sustained by the American Association in the death of its President, Prof. E. D. Cope, is a severe one, and occurs at a critical time. Prof. Cope, it is understood, is to be succeeded by Prof. Theodore Gill, senior Vice-President of the Association, and there will consequently be no interruption in the arrangements for the session. The Council of the Association, at its recent meeting, resolved to extend to all the members of the British Association who will attend the Detroit meeting the privilege of honorary membership. It has also been proposed that, in the interval between the Toronto and the Detroit meetings, the members of the American Association take an excursion trip, the terminal point of which would be Toronto, and its final day August 18.

A. B. Macallum.

NOTES.

Prof. E. A. Schäfer, F.R.S., is unavoidably prevented from attending the forthcoming meeting of the British Association at Toronto, and in his absence the duties of General Secretary will be undertaken by Prof. W. C. Roberts-Austen, C.B., F.R.S., who will also deliver one of the evening discourses, on "Canada's Metals." The other evening discourse will be given by Prof. John Milne, F.R.S., on "Earthquakes and Volcanoes." The Council of the Association have resolved to nominate Mr. W. Crookes, F.R.S., as President for the meeting to be held at Bristol next year. We have already printed (March 25, p. 494) the list of the presidents of the various sections of the Toronto meeting.

At the anniversary meeting of the Linnean Society, held on Monday, the gold medal of the Society was awarded to Dr. Jacob Georg Agardh, Emeritus Professor of Botany at the University of Lund, the distinguished algologist, and author of the "Species, Genera, et Ordines Algarum," which contains the first embodiment of the natural system applied to marine algæ as a whole. Greville, Harvey, and Kützing, no doubt, paved the way and made this task possible, but it nevertheless remains a monument of research and true systematic judgment. In 1872 he commenced a series of memoirs, "Till Algernes Systematik," which he completed in 1890; another great work, "Florideernes Morphologi," having appeared meanwhile in 1879. Ten years later he published his "Species Sargassorum Australiæ"; and in 1892, in his eightieth year, commenced a remarkable series of memoirs, the "Analecta Algologica," the completion of which he has happily achieved. In his unavoidable absence from England, the gold medal just awarded to him was received on his behalf by His Excellency the Minister for Sweden and Norway.

Prof. Felix Klein, professor of mathematics in Göttingen University, has been elected a Correspondant in the Section of Géométrie of the Paris Academy of Sciences, in succession to the late Prof. Sylvester.

The death of Sir Augustus Wollaston Franks, K.C.B., F.R.S., President of the Society of Antiquaries, will be deeply regretted by all archæologists. From an obituary notice in the *Times* we learn that Sir A. W. Franks was born in 1826, and was thus in his seventy-second year. He early developed the taste for mediæval archæology, upon which he afterwards became the leading authority. In 1849 his "Ornamental Glazing Quarries" was published, and among his other archæological works may be mentioned "Medallic Illustrations of British History," and an edition of Kemble's "Horæ Ferales," a volume which his additions converted into a standard work. He entered the British Museum as an assistant in 1851, and afterwards became Keeper of the Department of British and Mediæval Antiquities, and of Ethnography. Not only his own, but other sections of the Museum, bear witness to his catholic taste and great liberality. Upon his retirement from the Museum, he was placed on the Standing Committee, and took an active part in the work up to the time of his death. For some time he was Director of the Society of Antiquaries, and in 1891 he was elected President of the Society for a period of seven years. The Society as well as the Museum was familiar with his liberality, and quite recently he presented to the Society some hundred volumes from his antiquarian library. His principal discovery in archæology was to separate the work of the age which produced what he called "Late Celtic" antiquities from that of the age which preceded and followed it. His persistency as a collector, moreover, managed to secure for the nation the best collection that exists of the remains of this period—a period which lies on the borderland between the prehistoric and historic periods in Britain, and about which antiquarian relics are our only means of knowledge. He was elected a Fellow of the Royal Society in 1874.

THE fund established by Mrs. Elizabeth Thompson, of Stamford, Connecticut, "for the advancement and prosecution of scientific research in its broadest sense," now amounts to 26,000 dols. (5200*l.*). We are informed that, as accumulated income will be available in November next, the trustees desire to receive applications for appropriations in aid of scientific work. This endowment is not for the benefit of any one department of science, but the trustees give the preference to those investigations, which cannot otherwise be provided for, which have for their object the advancement of human knowledge or the benefit of mankind in general, rather than to researches directed to the solution of questions of merely local importance. Applications for assistance from this fund, in order to receive consideration, must be accompanied by full information, especially in regard to the amount required, nature of the investigation proposed, conditions under which the research is to be prosecuted, manner in which the appropriation asked for is to be expended. All applications should reach, before November 1, 1897, the Secretary of the Board of Trustees, Dr. C. S. Minot, Harvard Medical School, Boston, Mass., U.S.A. Decided preference will be given to applications for small amounts, and grants exceeding 300 dols. will be made only under very exceptional circumstances. It appears from the list we have received, that of the seventy-one grants hitherto made, three have come to Great Britain, viz.: 150 dols. to Dr. Samuel Rideal, for investigations on the absorption of heat by odorous gases; 125 dols. to Mr. Edw. E. Prince, of St. Andrews, for researches on the development and morphology of the limbs of teleosts; and 250 dols. to Mr. Herbert Tomlinson, F.R.S., for researches on the effects of stress and strain on the physical properties of matter. Twenty-four of the remaining grants were given to men of science in America, twenty went to Germany, five to Switzerland, four to France, three to Belgium, three to Canada, and two to Italy.

DR. CHARLES W. DABNEY has been appointed "special agent in charge of scientific and statistical investigations" of the U.S. Department of Agriculture.

THE steamer *Bear* left Seattle on May 6 for the Arctic regions, having on board surveying parties of the United States Coast and Geodetic Survey, who have gone to survey the Pribyloff Islands.

THE *Times* correspondent at Copenhagen states that the "Carlsberg Fund" for scientific purposes has offered 150,000 kroner (about 8300*l.*) to the Danish scientific expedition to the east coast of Greenland, for the purpose of making a chart of the coast northwards to Angmagsalik.

AN "at home" was held by the President and Council of the Geological Society at the Society's Rooms in Burlington House, on Wednesday, May 19, when Mr. E. J. Garwood, who was a member of Sir Martin Conway's expedition to Spitzbergen, gave some account of the geology and glacial phenomena of that region.

THE annual report of the Brooklyn Institute shows steady growth in membership. Sir Archibald Geikie delivered before the Institute, on May 10, an illustrated lecture on the Hebrides. In the course of the lecture he remarked that he had never been able to understand the remarkable volcanic phenomena of these islands till his visit to the volcanic region of the western part of the United States eighteen years ago.

WE regret to have to include in this week's obituary the names of Mr. Martin L. Linell, assistant in the Department of Insects of the U.S. National Museum; Dr. C. A. L. Robertson, distinguished for his work in medico-psychology, and joint editor of the *Journal of Mental Science;* and Mr. John Ramsbottom, president of the Institution of Mechanical Engineers in 1870-71.

A SEVERE shock of earthquake, which lasted six or seven seconds, was experienced at Guadeloupe, West Indies, at 10.30 a.m. on April 30. It was most strongly felt at Pointe à Pitre, where the stone gable-end walls of over a hundred houses fell and crushed adjoining buildings. Several minor shocks were felt after the first disturbance. No premonitory sounds were heard.

THE report of the medical superintendents to the Metropolitan Asylums Board on the use of antitoxin in the treatment of diphtheria during the year 1896, has just been presented to the Board. The statistical results with regard to mortality are compared with those for 1894, the year immediately preceding the introduction of antitoxin, and the one in which the lowest mortality had been recorded up to that time; they show a marked improvement in all classes of cases, and especially in the severer ones. "We have had, in fact," the report states, "somewhat better results to record for 1896 than we had for 1895. . . . We have only to add that we still hold to the opinion that in the antitoxic serum we possess a remedy of distinctly—we would now say much—greater value in the treatment of diphtheria than any other with which we are acquainted."

THE conference of the members of the Institution of Civil Engineers was opened on Tuesday, under the Presidency of Mr. J. Wolfe Barry, C.B., F.R.S., President of the Institution. The President, in an address to the combined Sections, congratulated the members who had taken part in the designing and construction of the Blackwall Tunnel upon the successful completion of that work. He then gave an outline of the birth, parentage, and career of the Institution, which dates from 1818. At the conclusion of the address the work of the various Sections began. A conversazione was held on Tuesday evening, and was attended by some 1500 guests.

A GENERAL meeting of the members of the Federated Institution of Mining Engineers will be held in London, on Thursday (June 3) and Friday (June 4). The following are among the papers to be read:—"Presidential Address," by Mr. Lindsay Wood; "Machine Coal-mining in Iowa, U.S.A.," by Mr. H. Foster Bain; "Occurrence of Cinnabar in British Columbia, Canada," by Mr. W. Hamilton Merritt; "Notes on a Boring at Netherseal, Ashby-de-la-Zouch, Leicestershire," by Mr. G. J. Binns, with stratigraphical remarks by Mr. C. Fox-Strangways, and petrographical remarks by Mr. W. W. Watts; "The South Wales Anthracite Coal-field," by Mr. Morgan W. Davies; "The Lake Superior Iron Ore Region, with special reference to the Masabi Range," by Mr. Horace V. Winchell; "Gold in Nature," by Captain C. C. Longridge.

AN air-ship made a remarkable ascension from Nashville a few days ago, under the management of Mr. A. W. Barnard. The air-ship is a cylindrically-shaped silken bag, with rounding ends, and is 42 feet long and 16 feet wide, enclosed in a netting school instruction had long been too bookish, too little practical, and that the friends of technical instruction were fully justified in calling attention to the grave deficiencies in our system, especially to the want of sounder teaching in physical science and of better training in the application of those sciences to the enrichment of the community and to the practical business of life.

Prof. Oscar Pyferven, of the University of Ghent, who represented the Belgian Government, read a paper on "L'Enseignement Professionnel et l'Initiative Privée en Belgique"; and M. E. Sève (Consul-General for Belgium) read a paper on "Technical and Commercial Instruction in Belgium."

Prof. Wertheimer, principal of Merchant Venturers' Technical College, Bristol, read a paper on the influence of various examining bodies on the progress of technical and commercial education in England. He held that it behoved them to watch closely any attempt to establish new examinations. The technical instruction committees of some County Councils were already instituting examinations of their own; in a very few cases these might be necessary to meet special local requirements. But, as a rule, they were not needed, and it would be wiser to endeavour to modify existing examinations, if necessary, rather than to establish new ones.

On Thursday a paper by Mr. Quintin Hogg, on "Polytechnics," was read by Dr. William Garnett, who also gave an account of the work of the Technical Education Board of the London County Council. In commenting upon the latter paper, Sir John Lubbock said that too much of the money went to the elementary and too little to the higher training of those who were to be the leaders of industry.

The next paper was on "Reforms in the Organisation of Technical Education," by Prof. Silvanus P. Thompson, F.R.S., who said that the provision made on the continent for the higher training in chemistry might be understood from the fact that the entire establishment of the Regent Street Polytechnic, chemical laboratory, gymnasium, swimming bath, theatre, kinematograph, and all, might be accommodated within the space provided for the chemical laboratory alone in the polytechnic at Munich. The chemical laboratory of the polytechnic at Zurich exceeded in contents the whole of the technical schools at the People's Palace. The chemical laboratory of Berlin was larger than the whole building of the City of London College. The physics laboratory at Zurich was considerably larger than the whole building of the Finsbury Technical College, and the cost nearly twice as much.

The remainder of the papers on Thursday dealt with commercial education, the organisation of examinations, and the development of technical instruction in secondary schools.

The concluding session of the conference, held on Friday last, was devoted exclusively to the consideration of papers by ladies on a variety of aspects of technical and secondary education. Mr. Mundella, M.P., presided.

Miss Alice Mitchell read a paper on the "Teaching of Domestic Economy in Girls' Secondary Schools." In the high schools she thought the great failure was the absence of the practical side, for all schools suffered from the want of laboratory facilities.

A paper was read by the Countess of Warwick on "Technical Education in Rural Districts." She said she had undertaken the task believing that a careful development of the subject might help not a little to stay the depopulation of our villages. An intelligent appreciation of natural phenomena and natural laws, when applied to agriculture, might go a long way to relieve the depression from which country districts were so keenly suffering. The elements of chemistry and physics, geology, botany, and zoology might be taught with great advantage to the future farmer or practical agriculturist. We should no doubt some day have a rational system of education, and not a disjointed one, as at present, when due regard would be paid to the co-ordination of subjects of instruction. At present, the great want was co-operation in all branches, but this was likely to remain while every branch of education was under a separate and distinct authority, often antagonistic to each other and encroaching on one another's grounds. In the same town they might see the voluntary schools, board schools, middle schools, grammar schools, and technical classes all being carried on under separate rate authorities, who have no regard for each other's work, and consequently overlapping each other's efforts, in many directions leading to waste of time, money, and energy. District technical schools should be opened within given areas, or a technical side to existing schools be developed; or, perhaps better still, the schools of the whole district should be affiliated, with a technical school attached, for the use of the pupils from all. The money received by county councils for the technical education grant might be well spent in equipping such schools. If a plot of land could be attached to the technical schools, it would be very useful for the purpose of experiment and demonstration in the field.

At the close of a discussion, the Chairman said Lady Warwick's paper was so full of suggestions that it was impossible to comment upon them briefly. It involved educational reforms of the highest importance, and the first was that one public authority in each district should see that education was properly carried out. Lady Warwick had put aside the utilitarian view; nevertheless, this was a subject of considerable moment, both in town and country. Denmark was far ahead of us in agricultural matters, and sent to this country produce to the value of 10,000,000*l.* annually. It was an extraordinary thing that we should have to pay enormous sums of money to foreign countries for supplies which we ought to be able to provide much better at home. They were told that foreigners were more intelligent than our people; and although he did not believe that, we should educate our people and try to make them as intelligent, fruitful, and productive as their foreign competitors.

A large number of other papers were read before the Congress, but the limitations of space prevent us from referring to them.

SCIENTIFIC SERIALS.

American Journal of Science, June.—Bacteria and the decomposition of rocks, by J. C. Branner. In criticism of the somewhat largely prevailing idea that bacteria are the cause of much of what is called the decay of rocks, it must be remembered that nitrifying bacteria not only do not penetrate the rocks themselves to any considerable depth, but they do not even penetrate the soil to a depth of more than three or four feet. Granites are, on the other hand, often decomposed to depths of more than 100 feet.—On Wellsite, a new mineral, by J. H. Pratt and H. W. Foote. This mineral occurs at the Buck Creek corundum mine in Clay Co., North Carolina, associated with albite, felspar, and hornblende. No crystals found exceed 2 mm. in length. They are monoclinic and twinned, brittle, with a vitreous lustre and no apparent cleavage. They are colourless and transparent or white, with a hardness of between 4 and 4·5, and a density of about 2·3. Chemically, it is a barium or calcium hydrated silicate corresponding to the formula $RAH_2Si_3O_{10}.3H_2O$, and is therefore allied to Phillipsite, harmotome, and stilbite.—The magnetic increment of rigidity in strong fields, by H. D. Day. The author employs extremely strong fields in order to bring out clearly the relation between magnetisation and the phenomena of magnetic rigidity. He shows that long after magnetic saturation has been reached the increase of rigidity due to increase of field intensity goes on, and that the limit of the latter is not reached even with the highest field intensities attainable. As the field becomes stronger, the increment of rigidity varies more and more regularly with the twist, the tendency being that in fields indefinitely large the increment of rigidity would be proportional to the twist applied.—The broadening of the sodium lines by intense magnetic fields, by A. St. C. Dunstan, M. E. Rice, and C. A. Kraus. The phenomenon of the magnetic broadening of the sodium lines discovered by Zeemann may be easily observed with the aid of Michelson's interferometer. Light from a Bunsen flame containing a sodium salt is sent on to a plate of plane glass which partly reflects and partly transmits it to a fixed and a movable mirror. The fringes produced in the telescope by their recombination are made less visible by the broadening of the line observed. The curve of visibility gives the amount of the broadening. In the most intense field the broadening is in the ratio of 1 to 1·7. It is proportional to the field intensity.—The relative motion of the earth and the ether, by A. A. Michelson. This was investigated by an interference experiment in which a beam of light was made to travel round a rectangle in a vertical E. and W. plane, and to return along the same path. If the ether near the earth's surface moves with the earth, and the ether above the atmosphere is stationary, there must be some difference of consequent inundation of large districts by the waters of the Dead Sea. At the same time the shock reopened the crater of a volcano on the eastern margin of the sea, and a violent eruption followed. This account, in Dr. Diener's opinion, best satisfies the geological conditions observed, and it may be admitted that it confirms the descriptive accuracy of the Biblical narrative.

The new number of the *Zeitschrift der Gesellschaft für Erdkunde zu Berlin* contains two important memoirs—one by Dr. G. Schweinfurth on the stone quarries of the Mons Claudianus in the Eastern Egyptian Desert, and one by Dr. Hans Steffen on the relations of Patagonia to the frontiers of Argentina and Chili. Dr. Steffen's paper is illustrated by an excellent map of an almost unknown region.

Dr. Arthur Keith has reprinted his four papers on the Anthropoid Apes, published in *Natural Science* during last year, and has formed thereby a very useful index to the literature of these important animals. The books and papers on this subject are, as Dr. Keith observes, much more numerous than most people imagine, and are, moreover, scattered about in the publications of all parts of the world. New contributions to this engrossing subject cannot satisfactorily be made without a full knowledge of what has been previously written. This is, therefore, a most useful piece of work, for which naturalists should be duly grateful to the author.

The work undertaken by Prof. Balfour Stewart, some years ago, in conjunction with Mr. W. W. Haldane Gee, and entitled, "Lessons in Elementary Practical Physics," was unfortunately interrupted by the death of Prof. Stewart, who only saw the completion of the second volume—that on Electricity and Magnetism. It has now been decided to complete the work by entrusting it to the hands of separate coadjutors; accordingly part 1 of volume iii. will appear immediately, containing a treatise on "Practical Acoustics," by Mr. C. L. Barnes. Part 2 of volume iii. will be a treatise on "Heat," by Mr. Haldane Gee; while the third part, completing the volume, will comprise "Optics."

Among noteworthy papers and other publications which have come under our notice during the past few days are the following:—*The Psychological Index*, No. 3, being a bibliography of the literature of psychology and cognate subjects for 1896, compiled by Mr. H. C. Warren and Mr. Livingston Farrand. This valuable index is a special issue of the *Psychological Review*.—Six fine portraits of the late Prof. E. D. Cope are given in the May number of the *American Naturalist*, together with several appreciative notices of his life and work.—A detailed obituary of the late Prof. Du Bois Reymond is contributed to the *Revue de l'Université de Bruxelles* by Prof. Paul Heger.—A catalogue of works on pure and applied mathematics, from the libraries of the late Prof. Cayley and Dr. Todhunter. These books and papers are offered for sale by Messrs. Macmillan and Bowes, and the list of them will interest many mathematicians and astronomers.—Dr. James Cappie contributes to the *Monist* (April) some suggestive considerations on the bearing of elementary physical principles on intercranial activities.

In view of the growing use of acetylene for heating and illuminating purposes, it has become of importance to find out under what conditions the storage of the gas may become dangerous. Some time ago MM. Berthelot and Vieille found that an explosive decomposition could be set up in acetylene either by a fulminate cap or by a red-hot wire, provided that the pressure was above two atmospheres, this explosive decomposition taking place with extreme ease in the case of the liquefied gas. In the latter case, the effects of the decomposition were similar in character to those produced by high explosives. These results were only too rapidly confirmed by the fatal explosion in Paris of a cylinder of liquid acetylene. It has recently been found out that acetone is a good solvent for acetylene, and in the *Comptes rendus* (May 10) MM. Berthelot and Vieille give an account of their very complete experiments on this solution. After examining the relations between pressure and temperature for solutions of various strengths, they next studied the effects produced by exploding a small charge of mercury fulminate, and by a red-hot wire. It was found that solutions of acetylene in acetone, although still capable of explosion, were much safer than the gas alone, the pressure at which explosion began to be possible being raised from two to ten kilograms per square centimetre. For a given sized vessel the quantity of acetylene that can be safely stored is fifty times greater with acetone than without it.

The additions to the Zoological Society's Gardens during the past week include two Common Marmosets (*Hapale jacchus*) from South-East Brazil, presented by Mr. W. A. Bromwich; a White-throated Capuchin (*Cebus hypoleucus*) from Central America, presented by Mr. T. H. Rudkin; two Bonnet Monkeys (*Macacus sinicus*) from India, presented by Mrs. Hardisty; a Cape Hunting Dog (*Lycaon pictus*) bred in Ireland, presented by the Royal Zoological Society of Ireland; a Vulpine Phalanger (*Trichosurus vulpecula*) from Australia, presented by Dr. J. Martin Kennedy; a Peregrine Falcon (*Falco peregrinus*), captured in the Red Sea, presented by Mr. J. Kilpatrick; an Alexandrine Parrakeet (*Palæornis alexandra*) from India, presented by Mrs. E. Hight; three Cocteau's Skinks (*Macroscinicus cocteaui*) from the Island of Raza, Cape de Verde, presented by Mr. Boyd Alexander; an Antillean Boa (*Boa diviniloque*) from St. Lucia, presented by Captain Digby H. Barker; a West African Python (*Python sebæ*) from West Africa, presented by H.E. Colonel F. Cardew, C.M.G.; a Smooth-headed Capuchin (*Cebus monachus*, albino) from South-east Brazil; two Green Monkeys (*Cercopithecus callitrichus*) from West Africa, two Blue Penguins (*Eudyptula minor*) from New Zealand, deposited; two Wallabys (*Macropus*, sp. inc.), an Australian Pelican (*Pelecanus conspicillatus*) from Australia, purchased; a White-tailed Gnu (*Connochetes gnu*) from South Africa, received in exchange; a Japanese Deer (*Cervus sika*), a Patagonian Cavy (*Dolichotis patachonica*), born in the Gardens.

OUR ASTRONOMICAL COLUMN.

The Origin of Solar and Stellar Light.—We have received a small pamphlet of eight pages (including the preface and a supplement) entitled "The Explanation of the Origin of Solar and Stellar Light, and the minor phenomena connected therewith," written by Mr. M. R. Dissett, and published at the moderate (?) price of one shilling. The author of these pages expounds a theory of the universe in which the element of "temperature" plays no *rôle* whatever; in fact, he says "it requires only magnitude and distance sufficient for any non-luminous body to become a brilliant star." Indeed, he goes on to say, "the fact that all the heavenly bodies, without exception, the rarest gases as well as the most solid bodies, give light in proportion to their magnitude, density and distance, might long ago have suggested that their brilliancy must be due to some such principle and not to their being incandescent matter, a theory as puerile as it is unscientific." The "principle" alluded to in the extract, is none other than that by which the light "reflected by a comparatively dull body, such as a planet, becomes more intense as its apparent disc diminishes in increasing distance, till finally it becomes a brilliant star." Arguing from this, the author explains how our sun does not shine by his own light, but is non-luminous and reflects star light. In fact, he infers that every body in the heavens appears bright on this principle. One might be inclined to ask whence the original light, since every body seems to be capable only of